

# Green Banking Practices and Perceived Performance of Nepalese Commercial Banks

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## Abstract

The adoption of green banking practices by Nepali commercial banks is examined in this study, with an emphasis on how these policies affect the institutions' perceived performance. A sample of 384 bank employees and seven commercial banks participated in the study, which was carried out in the Kathmandu Valley to gauge their knowledge and opinions of green banking activities. Assessing the degree to which these institutions have adopted green banking practices and their impact on perceived performance is the aim. A structured questionnaire was used to gather data for the descriptive research design, and statistical tools like regression, correlation, mean, and standard deviation were used in the quantitative analysis. The results demonstrate that the majority of staff members are knowledgeable of green banking offerings.

Furthermore, the study finds that the perceived performance of banks is positively correlated with green banking components such as risk management, green investments, human resource practices, green business strategies, and green products. These programs support larger sustainability objectives in addition to improving the banks' profitability. The study concludes by pointing out that green banking practices boost commercial banks' competitiveness, encourage environmental sustainability, and greatly enhance their performance in Nepal. In order to promote sustainable development and boost operational effectiveness within the Nepalese banking industry, the study highlights the strategic significance of implementing green banking strategies.

**Keywords:** Green Investment, Risk Management, Green Human Resource, Green Business Strategy, Green Products and Services.

## 1. Introduction

Although it is still in its infancy in many regions, green banking is a new idea aimed at protecting the environment and encouraging sustainable development in the financial sector (Trehan, 2015; Rai et al., 2019). Green banking is a cutting-edge banking strategy that combines environmental sustainability and economic growth, claim Tu and Yen (2015). The importance of e-banking in promoting green banking activities is highlighted by Yang et al. (2009). Therefore, as part of their corporate social responsibility and as a strategic response to environmental concerns, banks are progressively implementing green banking practices (Islam and Das, 2013). This strategy supports the attainment of sustainable development goals in addition to helping to safeguard the environment (Islam and Kamruzzaman, 2015).

Following the 2012 UN Conference in Rio de Janeiro, the idea of a "green economy" attracted international interest (Santeramo, 2022). While drastically lowering ecological shortages and environmental hazards, a green economy aims to improve human well-being and advance social justice (D'Amato et al., 2017; Wijayanti & Ramlah, 2022). It promotes assuring alignment with future sustainability goals and policies (Oktiani, 2012) and reducing the environmental impact of all economic activities (Anggraini & Iqbal, 2022). Green jobs, funding, and investment, as well as green tourism and growth, are essential elements of a green economy (Firmansyah, 2022).

Sustainable development, urban green investments, tourism, business, education, and human resource development, renewable energy production, the 3Rs (Recycle, Reduce, Reuse), and conservation efforts are the six main pillars upon which its framework is based (Wijayanti & Ramlah, 2022). To adopt environmentally friendly practices and reduce their carbon footprints, banks and other financial institutions have taken a number of steps (Deka, 2015; Jha and Bhome, 2013; Bihari, 2010). Laxmi Bank spearheaded the effort in Nepal (Mehta and Sharma, 2016), while

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Bangladesh Bank was the first financial institution in the world to adopt the idea of green banking (Masukujjaman and Aktar, 2013).

In order to promote sustainable practices, these initiatives include things like environmental preservation, endorsing bicycles as a zero-emission mode of transportation, and offering alluring loan packages for eco-friendly goods (Mehta and Sharma, 2016). In order to protect the environment, Bihari (2011) emphasized a green banking model in India that incorporates environmental safety norms as a crucial consideration for loan acceptance. The benefits of green banking, such as less paper use and environmental preservation, were highlighted by Gupta (2015). Furthermore, e-banking usage greatly aids green banking initiatives in developing nations like Vietnam, enhancing environmental benefits, according to Tu and Yen (2015).

Despite not having a direct environmental impact, banks and other financial institutions have historically used a lot of paper due to their traditional reliance on paper-based procedures. These organizations, which at first only addressed financial issues, are now more motivated by public interest to adopt moral principles and adjust to changing social demands (Chowdhury, Naim, & Hamid, 2018). As a result, they have embraced the idea of green banking, which prioritizes waste minimization and resource efficiency (Sahni & Dhamija, 2018). Eco-friendly techniques are currently being actively used by financial institutions in their operations as well as in their financial services and products (Nisha, 2016).

Promoting online bill payment to cut down on mailing transactions, providing ecologically friendly banking plans, and favoring online banking over traditional branch visits are all examples of green banking activities. In order to preserve the environment, banks also encourage customers to create accounts with online-only banks instead of traditional multi-branch banks (Tandon & Setia, 2017). With few but expanding initiatives, green banking practices in Nepalese commercial banks are still in their infancy. Loans for environmentally friendly goods including bicycles and solar energy systems have been made available by Laxmi Bank, Nepal Investment Bank, and Civil Bank (Mehta and Sharma, 2016).

Promoting bicycles as an emission-free mode of transportation and rewarding clients for sustainable behavior are just two examples of how Laxmi Bank, a leader in green banking in Nepal, stresses environmental responsibility. However, only a small number of banks in Nepal are able to keep up with worldwide trends. The purpose of this study is to investigate the applicability and effects of green banking practices in Nepal, a nation dedicated to sustainable development and extremely vulnerable to environmental issues. Through an analysis of the perceived performance of Nepalese commercial banks that employ these methods, the study seeks to shed light on their function in advancing sustainability, improving customer satisfaction, and conforming to international environmental norms. In addition to filling a significant knowledge vacuum, this study supports the growing demand for ecologically conscious banking in Nepal's financial industry.

Given that these practices are in line with the growing demand from stakeholders and customers for environmental responsibility, there may be a connection between Nepal's commercial banks' perceived performance and green banking. Because green banking improves a bank's reputation, client loyalty, and alignment with CSR objectives, it may have a beneficial effect on how banks are perceived to perform. The effects of implementing green banking practices on both financial and non-financial performance indicators in Nepal's commercial banking industry require more investigation.

The Nepalese commercial banking sector has faced notable challenges in embracing green banking practices over the past decade, exposing gaps in sustainable banking initiatives. This article aims to assess the current green banking practices adopted by commercial banks in Nepal, highlighting efforts in environmental awareness, customer engagement, regulatory compliance, and technological advancements. Furthermore, it explores the relationship between these green banking practices and the perceived performance of commercial banks, focusing on how these initiatives influence their operational sustainability and reputation. Finally, the article analyzes the impact of green banking on the overall perceived performance of Nepalese commercial banks, considering the evolving expectations of consumers and the global push toward environmental responsibility.

The study is structured into four main sections. The second section provides a review of relevant literature, followed by the third section, which details the research methodology. The fourth section focuses on presenting the results and discussing the findings, and the fifth section concludes with recommendations and implications of the study.

## 2. Literature Review

### 2.1. Literature Review

#### 2.1.1. Green Economy Theory

The Green Economy Theory emphasizes the necessity for businesses and economies to include ecological considerations into decision-making in order to balance economic growth with environmental responsibility (UNEP, 2011). This strategy encourages a healthy balance between development and environmental preservation by highlighting the importance of natural capital and the ecosystem services that sustain economic and human well-being (D'Amato et al., 2017). By providing environmentally friendly goods and services like electronic banking, e-statements, and sustainable financing choices, Green Banking in the banking industry aims to promote long-term sustainability (Anggraini & Iqbal, 2022).

In Mauritius, while some banks have begun adopting green practices, they still face challenges in fully implementing green banking strategies, such as expanding eco-friendly products and leveraging environmental information in investment decisions (Cappelli, 2017). Moreover, investing in green infrastructure not only supports environmental goals but also enhances operational efficiency and reduces carbon emissions (Oktiani, 2012).

#### 2.2. Empirical review

Despite not having a direct connection to environmental operations, banks play a critical role in implementing green strategies, as highlighted by Nath, Nayak, and Gole (2014), who underlined the urgent need for sustainable environmental management in response to climate change. To lessen their clients' external environmental effect, banks can include green practices into their operations, investments, and physical structures. According to Tara et al. (2015), banks are crucial in advancing sustainability through green banking practices, as industrialization and globalization have resulted in environmental deterioration. They maintained that in order to guarantee sustainable development, commercial institutions—including banks—must adopt eco-friendly practices.

Mozib (2015) focused on Bangladesh's green banking practices, urging government support and public awareness to address environmental challenges. Ganesan and Bhuvaneshwari (2016) explored customer perceptions of green banking in India, finding that IT and infrastructure can reduce environmental impacts, and the adoption of green banking services is influenced by educational qualification and age.

Risal and Joshi (2018) found that green banking practices positively influence the environmental performance of banks in Nepal, with significant relationships between green policies, environmental training, and energy-efficient equipment. However, they found no significant impact of green loans and projects on performance. Robert et al. (2018) examined the relationship between management, social sustainability, reputation, and financial performance in U.S. firms, highlighting the importance of sustainability practices for financial outcomes. Rai (2019) explored customer perceptions of green banking in Nepal, identifying low awareness but recognizing benefits like time-saving. Ibe-enwo et al. (2019) focused on the relationship between green banking practices and bank loyalty, finding that green image mediates the relationship between green banking and loyalty. Uddin (2019) assessed green banking practices in Bangladesh, noting that private commercial banks have implemented more green practices than state-owned ones.

There is little research on the effects of green banking practices in Nepal, especially with regard to how they affect the environmental performance of Nepal's commercial banks, despite the fact that many countries have focused on green banking and that many studies have been carried out internationally (Mehta & Sharma, 2016). The factors influencing consumer expectations and the adoption of green banking products were also not studied by Risal & Joshi (2018), who looked at customers' overall perceptions of the green banking programs and practices used by banks in Nepal. As a result, bankers and scholars continue to be interested in this topic.

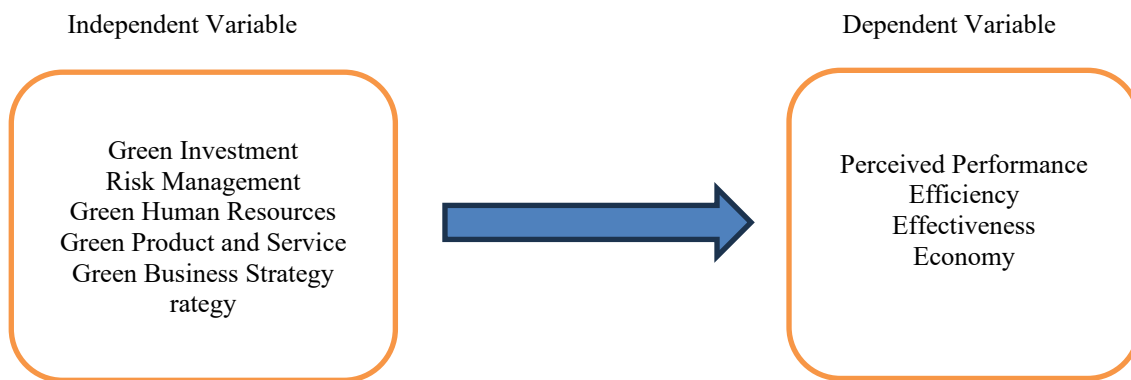
Green banking methods have been the subject of numerous research conducted in various nations. With an emphasis on striking a balance between environmental preservation and economic growth, Hang (2022) investigated the policy implications for green bank development in Vietnam. In their study on Islamic Green Banking in Indonesia, Rahmayti, Mujiatun, and Sari (2022) discovered that while liabilities had a negative effect on Green Banking, CSR, Green Accounting, and Growth Financing had a favorable effect. Tandukar et al. (2022) evaluated the green banking performance of Nepalese commercial banks, emphasizing the value of online services and staff training. Green

banking practices have a favorable impact on sustainability, according to Masukujjaman and Sodikov's (2022) analysis of their effects on environmental performance and finance in Bangladesh.

Finally, Acharya (2023) investigated the link between green banking initiatives and financial performance in Nepal, concluding that environmental integration boosts customer satisfaction but faces challenges like regulatory gaps and limited awareness.

Chen et al. (2023) used hierarchical regression analysis to examine the data and found that internal efforts to implement green finance, subjective norms, perceived behavioral control, and the attitudes of bank employees all significantly and positively influence behavioral intention. Additionally, their findings suggested that the impact of internal measures on behavioral intention was not strengthened by the interaction of attitude, subjective norms, and perceived behavioral control. Islam (2022) aimed to explore the factors influencing consumer attitudes toward green banking, specifically investigating how customers' attitudes, subjective norms, and perceived behavioral control affect the adoption and promotion of green banking. Islam (2022) conducted a survey of 263 bank account holders in Pakistan, selected through purposive sampling.

This study examines the connection between Nepalese commercial banks' perceived performance and green banking policies. In particular, it looks at how several elements including bank attributes, client involvement with green banking programs, and banking institution conduct affect these banks' overall financial performance. The study's conceptual framework is shown in Figure 1.



**Figure 1.** Conceptual framework

### 3. Research Method

This study used a quantitative approach and a descriptive research design to evaluate how green banking affected Nepal's commercial banks' perceived performance. Understanding how green banking policies affect these banks' financial performance was the main goal. Using a convenience sampling technique, data were gathered from 384 workers of seven chosen banks in the Kathmandu Valley, representing top, middle, and lower levels of personnel with at least six months of experience. Employees from seven commercial banks, including domestic, joint venture, and government institutions, were included in the sample.

A structured questionnaire was developed based on established literature in green banking (Bhatta, 2021; Tandukar, 2022; Rai et al., 2024; Koirala & Pandey, 2023). The instrument comprised 41 items designed to measure respondents' perceptions and experiences with green banking practices. Primary data were collected through self-administered online surveys (Google Forms) distributed to employees and customers of seven major Nepalese commercial banks: Agricultural Development Bank Limited (ADBL), Nepal Bank Limited (NBL), Everest Bank Limited, NMB Bank, Kumari Bank, NIC Asia Bank, and Laxmi Sunrise Bank. This multi-bank sampling approach ensured representation across different tiers of Nepal's banking sector.

SPSS software, which prioritizes validity and consistency in the research instruments, was utilized for data processing in order to guarantee the quality and dependability of the data gathered. Quantitative techniques, such as descriptive statistics like frequencies, percentages, means, and standard deviations, were used to analyze the data. To investigate the connections between financial performance and green banking practices, correlation and regression analysis were performed. Furthermore, statistical methods such as ANOVA and standard error were used to evaluate group

differences and variability. The results offered insightful information about how green banking affects Nepal's commercial banks' financial results.

Correlation measures the relationship between two variables, ranging from -1 to +1. A strong correlation (above 0.7 or below -0.7) indicates a close relationship, while a moderate correlation (between 0.3 and 0.7, or -0.3 and -0.7) shows a more moderate connection. A weak correlation (between 0 and 0.3, or -0.3 and 0) suggests a slight or no significant relationship between the variables. These values help assess how strongly variables are related. The definition of variable is shown in the appendix table.

Descriptive analysis and linear regression analysis are conducted for the analysis purpose. Linear regression is a statistical technique used to study the relationship between a dependent variable and one or more independent variables. It is commonly used when the dependent variable is continuous, and the aim is to model the linear relationship between the dependent and independent variables. Linear regression helps explain how changes in independent variables impact the dependent variable. The model estimates the parameters of the linear relationship between variables using a least squares approach, expressed mathematically as:

$$EF = \beta_0 + \beta_1 GI + \beta_2 RM + \beta_3 GHR + \beta_4 GPS + \beta_5 GBS + \epsilon \quad (1)$$

$$EFF = \beta_0 + \beta_1 GI + \beta_2 RM + \beta_3 GHR + \beta_4 GPS + \beta_5 GBS + \epsilon \quad (2)$$

$$ECO = \beta_0 + \beta_1 GI + \beta_2 RM + \beta_3 GHR + \beta_4 GPS + \beta_5 GBS + \epsilon \quad (3)$$

where:

- EF is the Efficiency,
- EFF is Effectiveness
- ECO is Economic
- GI is Green Investment, RM Risk Management, GHR is Green human resources, GPS is Green Product and Service and GBS is green business Strategy.
- $\beta_0$  is the intercept,
- $\beta_1, \beta_2, \dots, \beta_n$  are the coefficients, and
- $\epsilon$  is the error term (Swamy, 2019).

#### 4. Results and Discussions

Assistants made up 65.9% of the responders, followed by officers (18.5%) and higher-ranking officials (15.6%). Male respondents made up 57% of the sample, and female respondents made up 43%. The age distribution of the respondents was as follows: 63% were between the ages of 20 and 30, 26.3 percent were between the ages of 30 and 45, 5.7% were under the age of 20, and 4.9% were beyond 45. In terms of education, the majority of respondents (40.7%) had a master's degree, followed by those with a bachelor's degree (43.2%), while a smaller percentage had an M.Phil. (4.4%) and a +2 (4.7%). According to the respondents' work experience, the majority of employees (44.3%) had 1-3 years of experience, followed by those with 3-5 years (21.6%) and those with less than 5 years (16.9%).

**Table 1.** Descriptive Analysis

	N	Mean	Std. Deviation
Green Investment	384	2.1676	.50588
Risk Management	384	2.0418	.54140
Green Human Resources	384	2.0935	.53185
Green product and service	384	2.1274	.55735
Green business strategy	384	2.1995	.55588
Efficiency	384	2.0509	.52085
Effectiveness	384	2.0731	.56560
Economic	384	2.1736	.51440

The descriptive analysis presented in Table 1 reveals important insights about respondents' perceptions of green banking practices in Nepalese commercial banks. Based on a sample size of 384 respondents, the data shows that all measured green banking dimensions received mean scores between 2.04 and 2.20 on the measurement scale, indicating generally favorable perceptions. Green business strategy emerged with the highest mean score (2.1995),

followed closely by green investment (2.1676) and economic performance (2.1736), suggesting these aspects are particularly recognized by banking professionals. The standard deviations ranging from 0.50588 to 0.56560 across all variables demonstrate relatively consistent responses among participants. Notably, efficiency (2.0509) and risk management (2.0418) received slightly lower but still positive ratings, indicating these operational aspects may require more attention in green banking implementation. The overall pattern of results confirms that banking professionals in Nepal acknowledge the value of various green banking practices, with particular emphasis on strategic and investment-related dimensions, while maintaining generally positive views on all measured aspects of sustainable banking operations.

#### 4.1. Correlation Analysis

The correlation analysis shows strong positive relationships between Perceived Performance (PP) and all green banking variables (GI, RM, GHR, GPS, GBS), with coefficients ranging from 0.648 to 0.714 ( $p < 0.01$ ). This indicates that higher green banking practices are significantly associated with better perceived bank performance.

**Table 2.** Correlation between Different Variables

		GI	RM	GHR	GPS	GBS	PP
GI	Pearson Correlation	1					
	Sig. (2-tailed)	.000					
	N	384					
RM	Pearson Correlation	.616**	1				
	Sig. (2-tailed)	.000					
	N	384	384				
GHR	Pearson Correlation	.608**	.622**	1			
	Sig. (2-tailed)	.000	.000				
	N	384	384	384			
GPS	Pearson Correlation	.571**	.634**	.611**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	384	384	384	384		
GBS	Pearson Correlation	.555**	.574**	.650**	.644**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	384	384	384	384	384	
PP	Pearson Correlation	.648**	.688**	.702**	.714**	.667**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	384	384	384	384	384	384

The correlation table 2 reveals strong positive relationships between all green banking dimensions (GI, RM, GHR, GPS, GBS) and perceived performance (PP), with Pearson coefficients ranging from 0.648 to 0.714 ( $p < 0.001$ ), indicating highly significant associations. Among green banking variables, the strongest intercorrelations exist between GHR and GBS ( $r=0.650$ ), GPS and GBS ( $r=0.644$ ), and RM and GPS ( $r=0.634$ ). Notably, GPS demonstrates the strongest correlation with PP ( $r=0.714$ ), followed by GHR ( $r=0.702$ ) and RM ( $r=0.688$ ), suggesting these factors are particularly influential in driving performance outcomes. All relationships are statistically significant at  $p < 0.001$  level across the 384 observations, confirming the robustness of these associations. The pattern of correlations supports the conceptual model that green banking practices collectively and individually contribute to enhanced bank performance, with product/service innovation and human resource management emerging as particularly impactful dimensions.

#### 4.2. Regression Analysis

The regression analysis reveals that green banking practices significantly influence the perceived performance of Nepalese commercial banks. Key predictors like green products & services (GPS) and green human resources (GHR) show the strongest positive impact, confirming their critical role in enhancing bank performance. The model

demonstrates that adopting sustainable banking strategies contributes meaningfully to operational and financial success.

**Table 3.** Coefficient Model I

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	.275	.066	4.169	.089
	GI	.144	.038	.154	.0023
	RM	.178	.038	.198	.0034
	GHR	.197	.038	.225	.000
	GPS	.238	.038	.265	.0065
	GBS	.129	.036	.151	.0012
Adjusted R Square = 0.684, F-Value = 163.951, Sig. = 0.000					

The regression analysis for Model I demonstrates a strong and statistically significant relationship between green banking practices and bank performance, with an Adjusted R<sup>2</sup> of 0.684, indicating that the model explains 68.4% of the variance in performance. The overall model is highly significant (F = 163.951, p = 0.000). Among the predictors, green product and service innovation (GPS) has the strongest positive impact (B = 0.238,  $\beta$  = 0.265, p = 0.0065), followed by green human resource management (GHR) (B = 0.197,  $\beta$  = 0.225, p = 0.000) and risk management (RM) (B = 0.178,  $\beta$  = 0.198, p = 0.0034). Green investments (GI) (B = 0.144,  $\beta$  = 0.154, p = 0.0023) and green banking strategies (GBS) (B = 0.129,  $\beta$  = 0.151, p = 0.0012) also contribute significantly but to a lesser extent. These results underscore the critical role of innovative green products, HR policies, and risk management in driving bank performance, while reinforcing the importance of a holistic approach to green banking integration. The high explanatory power of the model suggests that these dimensions collectively enhance both financial and operational outcomes effectively.

**Table 4.** Coefficient Model II

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	.267	.152	1.756	.080
	GPS	.119	.094	.085	.209
	GI	.267	.083	.204	.001
	GBS	.218	.080	.172	.007
	GRM	.181	.095	.134	.057
Adjusted R Square = 0.256, F-Value = 32.506, Sig. = 0.000					

The regression results for Model II indicate a moderate but statistically significant relationship between green banking practices and bank performance. While the overall model is significant (F = 32.506, p = 0.000), it explains only 25.6% of the variance in performance (Adjusted R<sup>2</sup> = 0.256). Among the predictors, green investments (GI) have the strongest positive impact (B = 0.267,  $\beta$  = 0.204, p = 0.001), followed by green banking strategies (GBS) (B = 0.218,  $\beta$  = 0.172, p = 0.007). Green resource management (GRM) shows a marginal influence (B = 0.181,  $\beta$  = 0.134, p = 0.057), while green product and service innovation (GPS) is not statistically significant (B = 0.119, p = 0.209). These findings suggest that while GI and GBS are key drivers of performance, GPS and GRM may require further refinement or contextual adjustments to strengthen their impact. The model highlights the varying degrees of influence that different green banking initiatives have on financial outcomes.

The regression analysis (Model III) reveals significant positive relationships between green banking practices and bank performance, as indicated by the unstandardized coefficients (B) and their statistical significance (p < 0.05). Green product and service innovation (GPS) has a coefficient of 0.213 ( $\beta$  = 0.214, p = 0.000), green investments (GI) show a stronger impact (B = 0.248,  $\beta$  = 0.266, p = 0.000), and green resource management (GRM) has the highest influence (B = 0.264,  $\beta$  = 0.273, p = 0.000). Green banking strategies (GBS) also contribute positively (B = 0.120,  $\beta$  = 0.132, p = 0.006). The model explains 57.6% of the variance in bank performance (Adjusted R<sup>2</sup> = 0.576) and is statistically significant (F = 128.503, p = 0.000), confirming that these green banking dimensions collectively enhance financial and operational outcomes.

**Table 5.** Coefficient Model III

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.278	.082		3.402	.001
	GPS	.213	.051	.214	4.203	.000
	GI	.248	.045	.266	5.549	.000
	GBS	.120	.043	.132	2.763	.006
	GRM	.264	.051	.273	5.161	.000
Adjusted R Square = 0.576, F-Value = 128.503, Sig. = 0.000						

## 5. Conclusion

The study conclusively demonstrates that green banking practices significantly improve the performance of Nepalese commercial banks. Empirical evidence reveals that green product innovation (GPS), sustainable HR practices (GHR), and efficient resource management (GRM) serve as key drivers of both operational efficiency and financial outcomes. These findings validate that environmentally responsible banking strategies create a competitive advantage while aligning with global sustainability goals, offering Nepalese banks a clear pathway to enhance their market position.

For optimal results, banks should prioritize comprehensive green banking integration, particularly in product development, employee engagement, and investment strategies. Policymakers play a crucial role in fostering this transition by establishing supportive regulatory frameworks and incentives for sustainable practices. Financial institutions must also focus on continuous staff training and technological adoption to maximize the benefits of their green initiatives and meet evolving customer expectations.

### 5.1. Implications and Further Research

Banks should prioritize integrating green strategies, such as sustainable lending and paperless banking, to meet customer expectations and regulatory demands. The Nepal Rastra Bank (NRB) can further encourage adoption by offering incentives, setting green banking guidelines, and incorporating sustainability into monetary policies. These measures will help banks balance profitability with environmental responsibility, fostering a more sustainable financial ecosystem.

Future studies should expand to diverse banking sectors, incorporate larger samples, and employ mixed-method approaches for deeper insights. Research should also explore the social impacts of green banking, such as cost savings, customer satisfaction, and corporate social responsibility (CSR) outcomes. Investigating barriers to implementation and cross-country comparisons could provide valuable strategies for wider adoption and policy refinement.

### 5.2. Limitations

The study on green banking practices and perceived performance of Nepalese commercial banks has several limitations. First, the sample size may be limited, potentially reducing the representativeness of findings across the entire banking sector. Second, reliance on perceived performance (e.g., surveys) introduces subjectivity and possible respondent biases. Third, insufficient long-term data on green banking in Nepal restricts the analysis of its sustained impact. Additionally, data availability constraints, external economic factors, and regulatory influences may skew results. The lack of standardized metrics and short study duration further limit the robustness of conclusions. These limitations highlight the need for future research with broader data, extended timeframes, and more objective performance measures.

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